

June 19, 2007

Patent Application  
Preliminary Amendment  
Docket No. GJE-7492

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant(s) : Christopher Robin Lowe *et al.*  
Serial No. : 10/573,097  
Date filed : March 23, 2007  
Conf. No. : 8935  
For : Ophthalmic Device Comprising a Holographic Sensor

Mail Stop PCT  
Commissioner for Patents  
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PRELIMINARY AMENDMENT

Please amend the above-identified patent application as follows:

**Amendments to the Claims** are reflected in the listing of claims beginning on page 3 of this paper.

**Remarks** follow the amendment sections of this paper.

In the claims

This listing of claims will replace all prior versions and listings of claims in this application.

1 (currently amended). An ophthalmic device which comprises a holographic element comprising a medium and, disposed therein, a hologram, wherein an optical characteristic of the element changes as a result of a variation of a physical property of the medium, and wherein the variation arises as a result of interaction between the medium and an analyte present in an ocular fluid, and wherein the medium comprises a phenylboronic acid group.

2 (previously presented). The device according to claim 1, wherein the medium is polymeric.

3 (previously presented). The device according to claim 2, wherein the medium is obtainable by the polymerization of monomers including acrylamide.

4 (previously presented). The device according to claim 1, wherein the holographic element does not contain silver.

5 (previously presented). The device according to claim 1, wherein the interaction is a chemical reaction.

6 (previously presented). The device according to claim 5, wherein the reaction is reversible.

7 (previously presented). The device according to claim 1, wherein the analyte is glucose.

8 (cancelled).

9 (currently amended). The device according to claim [[8]]1, wherein the medium is obtainable by the polymerization of monomers including 3-acrylamidophenylboronic acid or 5-fluoro-2-methacrylamidophenylboronic acid.

10 (currently amended). The device according to claim [[8]]1, wherein the medium comprises a group which is capable of repelling lactate, the group comprising a substantial negative change.

11 (previously presented). The device according to claim 10, wherein the boron atom of the boronic acid group carries the substantial negative change.

12 (previously presented). The device according to claim 10, wherein the medium is formed by the polymerization of monomers including acrylamidoglycolic acid.

13 (previously presented). The device according to claim 7, wherein the medium comprises an amine group.

14 (previously presented). The device according to claim 1, which is a contact lens.

15 (previously presented). The device according to claim 1, which is implantable.

16 (currently amended). A method of detection of an analyte in an ocular fluid, wherein said method comprises detecting a change of the optical characteristic of the holographic element of an ophthalmic device that comprises a holographic element comprising a medium and, disposed therein, a hologram, wherein an optical characteristic of the element changes as a result of a variation of a physical property of the medium, and wherein the variation arises as a result of interaction between the medium and an analyte present in an ocular fluid, and wherein the medium comprises a phenylboronic acid group.

17 (currently amended). A method for the production of an ophthalmic device that comprises a holographic element comprising a medium and, disposed therein, a hologram, wherein an optical characteristic of the element changes as a result of a variation of a physical property of the medium, and wherein the variation arises as a result of interaction between the medium and an analyte present in an ocular fluid, and wherein the medium comprises a phenylboronic acid group.

wherein said method comprises contacting the holographic element with a contact lens, wherein the contacted regions of the element and the lens are cross-linkable; and cross-linking said regions.

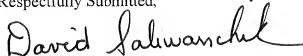
Remarks

Claims 1-17 were pending in the subject patent application. By this Amendment, the applicants have amended claims 1, 9, 10, 16 and 17 and have cancelled claim 8. No new matter has been added by these amendments. Accordingly, claims 1-7 and 9-17 are pending in the subject application.

The claims have been amended to more specifically describe that which the inventors believe to be patentable over the prior art. The inventors for the claims now presented are Christopher Robin Lowe, Satyamoorthy Kabilan and Jeffrey Blyth. The applicants will be submitting a Declaration signed by these inventors.

The Commissioner is hereby authorized to charge any fees under 37 CFR §§§1.16, 1.17, or 1.492 as required by this paper to Deposit Account No. 19-0065.

Respectfully Submitted,



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